NASA STTR 2004 Phase I Solicitation

T2.01   Flight Dynamic Systems Characterization

Lead Center: AFRC

This topic solicits proposals for innovative, linear or non-linear, aerospace vehicles dynamic systems modeling and simulation techniques. In particular:

Research and development in simulation algorithms for computational fluid dynamics (CFD), structures, heat transfer and propulsion disciplines, among others: In particular, emphasis is placed in the development and application of state-of-the-art, novel, and computationally efficient solution schemes that enable effective simulation of complex practical problems such as modern flight vehicles like X-43 and F-18-AAW as well as more routine problems encountered in recurring atmospheric flight testing on a regular daily basis. Furthermore, the effective use of high-performance computing equipment and computer graphics development is also considered as an important part of this topic.

Aeroelasticity and aeroservoelasticity, linear and non-linear: Vehicle stability analysis is an important aspect of this topic. Primary concern is with the development and application of novel, multidisciplinary, simulation software using finite element and other associated techniques.